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11-22-2004, 09:55 PM #1

wolfman
Super Member

Join Date: Jun 2002
Location: Texas
Posts: 12,066

wolfman's Photos

Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

NOTE: Fuel tank (and gauge) MUST be 3/4 or LESS BEFORE you start this!

What you will need:

I automotive type TEST LIGHT
(Available at Walmart or any autoparts store for less than $10)

EXTREMELY IMPORTANT!! **DO NOT** make up your own version of this repair! Follow the instructions **EXACTLY**

Open the trunk

Slip the trim carpet away from side of the DRIVER'S SIDE wheel well and locate the THREE WIRE connector hidden behind it. This connector will have THREE WIRES (Grey, Black with a WHITE stripe, and Purple)

START the car and LEAVE IT RUNNING, make SURE you can see the fuel gauge through the back window easily (recline driver's seat fully)

Connect the clip of the test light cord to GROUND

Probe each of the three wires where they go into the connector **QUICKLY**, one (but not the other two) should light up the light confirming that it has a good ground. If it does not light up reclip the test light clip somewhere else and repeat until you are **SURE** you have a GOOD GROUND to the test light.

While observing the gas gauge through the rear window, probe the wires again in the same manner until you find one that when probed causes the gas gauge to peg all the way over to the "FULL" mark.

Leave that wire probed (and the gauge pegged over) for **15 seconds and then remove the probe.**

Shut the car off and WAIT about 10 minutes, then restart the car. If you have been successful the gas gauge should now be reading higher than it was before you started. It should continue to read more accurately for quite some time. (My own is at 3 weeks at this point)

IMPORTANT!! DO NOT leave the probe connected for longer than the 15 second interval listed! If you do, you may wind up with a gauge that constantly reads too full!!!

Why this works:

Your gas gauge works basically by having two electro magnets fight against each other on either side of the needle. One side gets a basically consistant ground from the wiring harness that is always trying to pull the needle toward the EMPTY the other gets a VARIABLE ground from the sending unit in the gas tank that tries to pull the gauge toward FULL. As the tank empties, the signal from the sending unit gets WEAKER, allowing the EMPTY side of the gauge to gradually "win" this electronic tug of war. As anyone who ever took science in grade school knows, an electro magnet retains a partial magnetic field even when the power is shut off to it. Over time this residual magnetic field will remain/get STRONGER on the magnet that gets the most consistant power feed (the EMPTY side of the gauge) and NOT as strong on the magnet that gets the least consistant (or variable) power feed (the FULL side of the gauge) By giving full ground via this proceedure BRIEFLY to the magnet on the FULL side that normally gets only a partial and variable ground, you are "recharging" the residual magnet field that this magnet has even when the power is shut down to it. This makes it SLIGHTLY easier for the magnet on the FULL side of the gauge to do battle with the magnet on the EMPTY side of the gauge when powered up and in doing so makes the gauge read correctly (or more so) again.

...

Old Saturns never die, people KILL them, so check your damn oil!
"Unthinking respect for authority is the greatest enemy of truth." Albert Einstein

REWARD EXCELLENCE!

Rate the quality of this post and help *wolfman* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

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11-23-2004, 09:24 AM #2

Luke
Master Member

Join Date: May 2002
Location: Laguna Bch, CA
Posts: 4,159

1995 SL2

Re: Possible "easy" fix for "S" series gas guage that reads to LOW

Regards ^^^^^ And I continue to get nowhere on my efforts to clone him

** One **VERY HAPPY** person, with my manual radiator fan switch, Thanks to Wolf's guidance ** 95 SL2, 398,293 Miles..... 40.28 MPG ^ (10 Tank Full Avg) as of Nov 23nd, '04. Quaker State 10w-40 Oil, using 1 qt / 975 miles

...
> 95 SL 2 = 653,369 Miles 40.4 MPG, as of 5/20/11. My manual Radiator Fan Switch, courtesy of Wolfman's patient installation guidance, continues to be.....invaluable < The car was retired

REWARD EXCELLENCE!

Rate the quality of this post and help *Luke* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

04-12-2005, 06:24 PM #3

geartooth94
Master Member

Join Date: Mar 2003
Location: Allentown, PA
Posts: 3,879

geartooth94's Photos

Re: Possible "easy" fix for "S" series gas guage that reads to LOW

Did this the other day. For me, the purple wire gave me a good "light" on the test light, and the black and white striped wire made the gauge go to full.

For me it took a second or two for the needle to "sweep" all the way to full. It definitely did not "peg" quickly as was stated in the article.

...
1996 Dodge Avenger ES: 2.5L V6

REWARD EXCELLENCE!

Rate the quality of this post and help *geartooth94* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

04-13-2005, 12:57 PM #4

Revwillie
Member

Join Date: Jul 2003
Location: Alexandria, VA
Posts: 205

Revwillie's Photos

1993 SC2

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

I'm intrigued by this fix, but I'm not sure it will help me.

My gas gauge seems to act up between E and 3/8 full. As far as I can tell, it's OK at the higher levels. It doesn't consistently read low, it fluctuates between E and 3/8 so that I can get a general feel for how full the tank is by noting the highest reading. I use this plus the trip odometer to figure out when I need to fill up. It has been more difficult lately because my gas milage has dropped off (I just replaced the ECTS to try to fix this...also planning O2 sensor replacement if necessary)

I guess I could try the fix as an alternative to replacing the sender.

...
93 SC2 140,000mi

REWARD EXCELLENCE!

Rate the quality of this post and help *Revwillie* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-28-2005, 11:22 AM #5

turbobuick33
Advanced Member

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

If I do this fuel gas gauge fix would I have to keep on doing this on a monthly basis to keep the fuel gauge accurate? Or should doing it once be good enough?

REWARD EXCELLENCE!

Rate the quality of this post and help *turbobuick33* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

Join Date: Jul 2005
Location: IL
Posts: 996

turbobuick33's Photos

1992 SL2

08-28-2005, 12:30 PM #6

sierrap615
Master Member

Join Date: Aug 2003
Location: Downers Grove, Illinois
Posts: 2,538

sierrap615's Photos

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

just do it once, after a few years if it starts to read off again, then repeat.

...
Formerly - Saturn of Downers Grove Parts Department
Current - Castle Chevy in Villa Park Parts Department

EPA 608 Certification
EPA 609 Certification

REWARD EXCELLENCE!

Rate the quality of this post and help *sierrap615* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-28-2005, 11:46 PM #7

turbobuick33
Advanced Member

Join Date: Jul 2005
Location: IL
Posts: 996

turbobuick33's Photos

1992 SL2

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

another dumb question, How do you probe a wire? and what is a probe?

REWARD EXCELLENCE!

Rate the quality of this post and help *turbobuick33* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-29-2005, 05:43 AM #8

David 93 SL2m
Master Member

Join Date: May 2000
Location: North America
Posts: 3,594

David 93 SL2m's Photos

2004 VUE 2.2L
2007 ION-3 Sedan

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

> Quote:
> Originally Posted by **turbobuick33**
> *another dumb question, How do you probe a wire? and what is a probe?*

I have a probe and mine is shaped like a pencil. The "tip" resembles a fat straight pin (designed for fabric sewing) and the "eraser" is a red LED. There is a thin insulated wire about 2 feet long connected to the probe near the LED and the end of this wire has an alligator clamp attached. I'd guess there is a resistor inside the probe between the tip and the LED.

To probe a wire or to probe an electrical contact we first put the alligator clamp on a good grounding location meaning some bare metal nearby. If the tip of the probe is sharp then we can penetrate the insulation of the wire we wish to probe with it directly and touch the wire itself inside the insulation. If there is current flowing through that wire then some will go into the probe, light up the LED, and go to the grounding location (and back to the car's battery). We can also penetrate the insulation of the wire using a straight pin and then touch the probe to the straight pin but I'd only recommend this for low current things. Another option is to use wire strippers to carefully score the insulation and expose some of the bare wire inside. Afterward it would be wise to repair the insulation of the wire and reseal the break we made by using electrical tape or "liquid electrical tape." I prefer to try to use my probe at the end of the wire where it meets a wiring harness because usually I can find some bare metal very close to that point.

A probe can be found at most stores that sell things like car headlight bulbs usually where they have wire, connectors, switches, etc. The cost should be less than $10 (USD).

We can also use a multimeter of some sort for probing, but I am not sure if using a multimeter or the like will lead to the results intended by Wolfman with respect to fixing the reading of the fuel gauge on the dashboard...

...

Current
· 2004 VUE 124K
· 2007 ION3 112K
...
Past
· 1993 SL2 212K
· 1993 SC2 140K
· 1996 SC2 157K
· 1996 SC2 126K
· 2001 SC2, 145K
· 2002 L200 20K
· 2002 SL1 129K
...

REWARD EXCELLENCE!

Rate the quality of this post and help *David 93 SL2m* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-29-2005, 12:18 PM #9

turbobuick33
Advanced Member

Join Date: Jul 2005
Location: IL
Posts: 996

turbobuick33's Photos

1992 SL2

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

Just to make things clear, from the instructions, So I probe all 3 wires but I leave one unprobed, which would be the purple wire? Then I probe the purple wire and the gas gauge should move to full mark, then I remove it.

REWARD EXCELLENCE!

Rate the quality of this post and help *turbobuick33* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-29-2005, 01:54 PM #10

turbobuick33
Advanced Member

Join Date: Jul 2005
Location: IL
Posts: 996

turbobuick33's Photos

1992 SL2

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

I try doing this and it didn't work. The car was running I found that the purple wire lights up with the test light. I used T shape pins and I inserted it into the black and grey wires into the connector. I didn't probe the purple wire yet, I left it alone. So then if I probe the purple wire while the other 2 wires (grey and black wires) are probed with the T pins and when the car is running shoudn't the gas needle move up? I tried it a few times and the gas needle didn't move at all? What could I be doing wrong?

REWARD EXCELLENCE!

Rate the quality of this post and help *turbobuick33* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-29-2005, 02:03 PM #11

NavyCPO
Member

Join Date: Nov 2004
Location: Norfolk, VA
Posts: 180

NavyCPO's Photos

1993 SL2

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

Turbo,

You need to re-read Wolfman's original post at the top here. You will probe each of the three wires one at a time to check for the light on your probe to light up. When it does light up, that tells you you have a good ground. Now, you will probe each wire **one at a time** till you find the one wire that moves the gas needle. On my 93 SL2 it was the gray one. Once you find the one wire that moves the gas needle only probe it for 15 seconds and no longer than that. Shut the car off for 10 minutes, then restart the car. Hopefully your needle will be showing higher on the guage.

...
Jim Hunter, Chief Petty Officer, USN, Retired
93 Saturn SL2 Automatic

Last edited by NavyCPO; 08-29-2005 at 02:05 PM.. Reason: typo

REWARD EXCELLENCE!

Rate the quality of this post and help *NavyCPO* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-29-2005, 09:32 PM #12

sierrap615
Master Member

Join Date: Aug 2003
Location: Downers Grove, Illinois
Posts: 2,538

sierrap615's Photos

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

also i don't *think* a LED test light will work, the resistance is to high. a standard blub type test light has low resistance, it will pull the more amperage that is needed to allow "FULL" side magnet to "recharge". this is also why you do not want to leave the light connected to long or repeat the procedure more then is needed because the fuel gauge could burn out.

wolfman can you confirm my thoughts?

...
Formerly - Saturn of Downers Grove Parts Department
Current - Castle Chevy in Villa Park Parts Department

EPA 608 Certification
EPA 609 Certification

REWARD EXCELLENCE!

Rate the quality of this post and help *sierrap615* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-30-2005, 03:15 AM #13

wolfman
Super Member

Join Date: Jun 2002
Location: Texas
Posts: 12,066

wolfman's Photos

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

Sigh.... how come some folks without fail always miss the part that says "DO NOT make up your own version" ????

...
Old Saturns never die, people KILL them, so check your damn oil!
"Unthinking respect for authority is the greatest enemy of truth." Albert Einstein

REWARD EXCELLENCE!

Rate the quality of this post and help *wolfman* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-30-2005, 06:29 PM #14

geartooth94
Master Member

Join Date: Mar 2003
Location: Allentown, PA
Posts: 3,879

geartooth94's Photos

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

use a standard automotive test light that uses a normal incandescent 12 volt bulb for the light.

...
1996 Dodge Avenger ES: 2.5L V6

REWARD EXCELLENCE!

Rate the quality of this post and help *geartooth94* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

08-30-2005, 08:25 PM #15

David 93 SL2m
Master Member

Join Date: May 2000
Location: North America
Posts: 3,594

David 93 SL2m's Photos

2004 VUE 2.2L
2007 ION-3 Sedan

Re: Possible "Easy" Fix for S-Series Gas Guage that Reads too Low

> Quote:
> Originally Posted by **David 93 SL2m**
> *I have a probe and mine is shaped like a pencil. The "tip" resembles a fat straight pin (designed for fabric sewing) and the "eraser" is a red LED.*

> Quote:
> Originally Posted by **geartooth94**
> *use a standard automotive test light that uses a normal incandescent 12 volt bulb for the light.*

I was wrong; mine has a normal incandescent 12 volt bulb too. Sorry about that.

...
Current
· 2004 VUE 124K
· 2007 ION3 112K
...
Past
· 1993 SL2 212K
· 1993 SC2 140K
· 1996 SC2 157K
· 1996 SC2 126K
· 2001 SC2, 145K
· 2002 L200 20K
· 2002 SL1 129K
...

REWARD EXCELLENCE!

Rate the quality of this post and help *David 93 SL2m* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

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